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**The Systems Theory Framework of career development:
20 years of contribution to theory and practice.**

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The development and sustained contribution of the Systems Theory Framework to career development theory and practice is well documented in national and international literatures. In addition to its contribution to theory integration, it has added to the growing literature on connecting career theory and practice, in particular for non-Western populations. In addition, it has been the basis of the development of a broad array of constructivist approaches to career counselling, and indeed specific reflective career assessment activities. This article begins with a brief history of the STF which is then followed by a rationale for its development. The contribution of the STF to theory and practice is then described prior to concluding comments by the authors.

History of the STF

The Systems Theory Framework (STF) had its genesis in McMahon's (1992) proposal of a contextual model of adolescent career decision making, drawing on the developmental-contextual approach of Vondracek, Lerner and Schulenberg (1986). This model, presented as a series of interconnected circles, included the "career decision maker as an individual who has a range of personal attributes" (McMahon, 1992, p. 14) (e.g., interest, religion, gender, knowledge, and disabilities) and sources of influence including family, peers and school, all located within the context of a society or environment that included geographical,

employment, socio-economic, political and historical factors. Moreover, McMahon acknowledged the dynamic nature of interactions between career decision makers and their contexts and also the degree of influence of the factors in her model on career decision makers. She concluded that career decision making should be considered “in terms of time and context” (p. 15) and that the contextual elements should be considered in relation to the future. Time was represented in the contextual model by an outer circle containing questions marks and the word ‘future’ and by placing the circular diagram over a horizontal time/life line to represent different decision points over time.

This work was then developed as part of McMahon’s Master of Education (Research) thesis, under the supervision of Patton. In this work, the literature of family systems therapy was used as a conceptualising framework to describe the contextual influences on career development which were termed systems. On the basis of the literature, the original model was modified slightly and the term influence was introduced to describe all of the factors represented in the circles and the term factor was removed. An important modification was the introduction of the term individual at the centre of the framework to replace the term career decision maker, thus emphasising the uniqueness of careers. Further refinements of the original model include more specific attention to the process of dynamic interaction. In particular, the term reciprocal interaction was introduced to describe the interaction between influences and explicitly represented in the STF diagram by broken lines and change over time was more clearly represented by shading and the timeline which specified past, present and future. Importantly, chance was introduced as an influence in its own right, the first theoretical framework to do so. The research found that the Systems Theory Framework could: “represent both content and process of career development,... take into account a broad range of influences ..., portray career development as the evolving process ... rather than as a static process ... recognise the dynamic nature of career development through

reciprocal interaction, and ... take into account the sometimes unpredictable nature of career development through the inclusion of 'chance' as an influence" (McMahon, 1994, p. 191). In the conclusion to her thesis, McMahon commented that "This research has established that the systems theory framework is applicable to the children and adolescents in this study. ... The application of the systems theory framework to adults could also be tested. Possible variations to the framework or to its explanation suggested in the theoretical findings of this study could be examined in future research" (McMahon, 1994, pp. 209-210).

Subsequent to this work, McMahon and Patton sought to further develop and refine the systems theory framework, exploring and testing possible variations. The work undertaken in this refinement included a comprehensive review of both the career theory literature and the systems theory literature. In the broader literature, important influences included the work of Collin and Young (1986) who strongly criticised the decontextualised view of individual and career and the over-emphasis on individual and intraindividual factors to the neglect of the broader context in which the individual operates. Patton travelled to the UK in 1995 to further discuss the systems theory framework with both Collin and Young, discussing at length Collin's own doctoral thesis (1984) and her work on developing systems theory application to career theory, drawing on the writing of von Bertalanffy (1968) and Checkland (1981). More recently Collin (2006) has advanced further her earlier work "using the notion of a system to build a conceptual model of career" (p. 300). This extensive reading and discussion in relation to systems theory significantly influenced and strengthened the theoretical infrastructure of the systems theory framework.

In addition to Patton's work with the systems theory literature, both writers tested the influences identified in the framework with students in Masters level classes during 1994 and 1995. As a result of these discussions, and attention to key factors identified across the

plethora of career theories, a number of influences on career development were added/modified. These included:

- Within individual influences, values, sexual orientation, and physical attributes were added, , and knowledge was refined to be named world of work knowledge;
- Within social system influences, schools as a name was broadened to educational institutions, employers broadened to include workplace, and community groups was added as an influence;
- Within the environmental-societal system, political factors was specified as political decisions, historical factors was broadened to historical trends, socioeconomic factors to socioeconomic status, and geographical factors to geographical location. In addition globalisation was added as an influence;
- Finally, reciprocal interaction was replaced with the term 'recursiveness', derived from systems theory, as it offered a more dynamic conceptual explanation.

The STF is composed of several key interrelated systems, including the intrapersonal system of the individual, the social system and the environmental-societal system (see Figure 1). The processes between these systems are explained via the recursive nature of interaction within and between these systems, change over time, and chance. The individual system is composed of several intrapersonal content influences which include gender, age, self-concept, health, ability, disability, physical attributes, beliefs, personality, interests, values, aptitudes, skills, world of work knowledge, sexual orientation, and ethnicity. Influences representing the content of the social system include peers, family, media, community groups, workplace, and education institutions. Environmental-societal system influences include political decisions, historical trends, globalisation, socioeconomic status, employment

market, and geographical location. Process influences include chance, change over time, and recursiveness.

This refinement resulted in the first publication of the Systems Theory Framework of career development in 1995 (McMahon & Patton) and its first practical application publication in 1997 (Patton & McMahon) in which several authors considered the use of the STF for a range of client groups and in a range of settings. In 1999, the major theoretical account of the Systems Theory Framework was published (Patton & McMahon, 1999), with updates and revisions published in 2006 and 2014 (Patton & McMahon, 2006a, 2014). Please refer to the 2014 publication for a full description of the STF and its sustained and growing contribution to career theory and practice.

Rationale for the development of the STF

The challenge that originally drove the development of the STF was the desire to produce a metatheoretical framework through which the contribution of all career theories could be recognised and a greater convergence of theory and theory and practice might be developed. This challenge was proposed in the content and outcomes of the convergence conference, published in Savickas and Lent (1994). Patton and McMahon also aimed to address the issues of content raised by Collin and Young (1986).

The Systems Theory Framework (McMahon & Patton, 1995; Patton & McMahon, 1997, 1999, 2006a, 2014) remains the first attempt to present a comprehensive metatheoretical framework of career development constructed using systems theory. It is not a theory of career development; although it is often misread and therefore misrepresented as such (Pryor & Bright, 2011). These authors were critical of the STF claiming “... the problem with the STF is that it is more framework than theory” (p. 22), further suggesting it is “content

without processes” despite its specific emphasis on both content and process and the importance of recursiveness as a core process element within the STF that specifically acknowledges the dynamic nature of career development. The Systems Theory Framework is not designed to be a theory of career development; rather systems theory is introduced as the basis for an overarching, or metatheoretical, framework within which all concepts of career development described in the plethora of career theories can be usefully positioned and utilised in theory and practice. With the individual as the central focus, constructing his or her own meaning of career, constructs of existing theories are relevant as they apply to each individual. Indeed, in the telling of career stories, individuals construct their own STFs.

The following advantages resulted from this work:

- a) similarities, differences, and interconnections between theories can be demonstrated;
- b) a systems theory perspective recognises the contribution to career development theory and practice of other fields, for example family therapy;
- c) systems theory brings to career development a congruence between theory and practice, and new approaches for use in career practice;
- d) the emphasis is placed on the individual and not on theory. Therefore systems theory can be applicable at a macrolevel of theory analysis, as well as at a microlevel of individual analysis;
- e) a systems theory perspective enables practitioners to choose from that theory which is most relevant to the needs and situation of each individual, thus drawing on key constructs of all theories; and
- f) systems theory offers a perspective that underlies the philosophy reflected in the move from positivist approaches to constructivist approaches.

Contribution of the STF to theory

The significance of the STF to the field has been highlighted by a number of key theorists in the field for over a decade. In 2002, Brown commented on the potential for the STF to provide an integrative theoretical framework for career theory. Amundson (2005) identified this work as one of four significant theoretical innovations in recent career theory. More recently, the STF has been analysed by Young and Popadiuk (2012) within the categories of Main Principles, Epistemology, Axiology, Rhetoric, Research and Practice. These authors describe it as a metatheoretical perspective which has made strong contributions to the field, especially to theory, research and practice and the interconnections between them – “Strong links between theory and practice provide a coherent theoretical frame for counsellors” (p. 18). They acknowledge the STF as a metatheoretical account of career development that accommodates career theories derived out of the logical positivist worldview with their emphasis on objective data and logical, rational process, and also of the constructivist worldview with its emphasis on holism, personal meaning, subjectivity, and recursiveness between influences.

The Systems Theory Framework, designed to provide conceptual unity to the field of career development theory, has also contributed to new patterns of relationships between existing theories and between theory and practice. A number of publications have worked to connect the STF with other theoretical formulations. For example, Patton (2007) presented a discussion of the potential for the STF in theory integration, in particular with respect to relational theories. McIlveen (2007) and McIlveen and Patton (2007) proposed the integration of dialogical theory (Hermans, 2002, 2003) with both career construction theory and with the STF. These authors proposed that the notion of dialogical self may contribute to understanding how individuals construct career-related stories of life themes. With its multiple voices and positions, dialogical self is central to the construction and co-construction

of life themes. Whilst life themes theoretically provide for the *why* of career, the notion of dialogical self provides a theoretical solution to the problem of *how* that meaning is constructed. As the STF moves the conceptualisation of career beyond the bounds of the individual toward a broader contextual understanding, dialogical self stands as a theoretical construct which can explain *how* individuals can bring meaningful coherence to the apparent complex and disparate systems of career influences. Dialogical self is thus presented as a potential theoretical construct to augment the explanatory capacity of both the STF and career construction theory.

Patton (2008) discussed similarities and differences between the STF and career construction theory, noting the contribution that both had made to the convergence agenda. More recently, drawing from the connections between the STF and the contextual action theory noted by Young, Valach and Marshall (2007), Patton (2015) expanded a discussion on these commonalities, in particular focusing on conceptual understandings and practice dimensions. Patton concluded that these approaches have more in common than different: “In developing a closer understanding of each of them, and their shared understandings and practices, we can develop a new informed connectedness in our theorizing and in our practice” (p. 47).

Contribution of the STF to practice

In the original contextual model that was the precursor of the STF, McMahon (1992) illustrated its practical application through the use of genograms, social atoms, sociodrama, structured peer interviews and adolescent-parent interviews. Subsequently, in considering the utility of the STF, Patton and McMahon (1999) emphasised career development learning as central to its practical application of the STF and discussed it in relation to career counselling, career education, and training and supervision.

Within the contribution to practice sphere, a number of authors have drawn from the STF to develop practice tools. A number of career assessment tools have been guided by the theoretical principles of the STF. For example, McIlveen, MacGregor-Bayne, Alcock and Hjertum (2003) developed and evaluated a semi-structured career assessment interview derived from the STF, and McIlveen, Ford and Dun (2005) described a narrative sentence-completion process that facilitates clients' exploration of their personal career systems. The My Career Chapter process (McIlveen, 2011; McIlveen & Patton, 2010; McIlveen, Patton & Hoare, 2007, 2008) based on the STF provides an opportunity for clients and for career counsellors to reflect on their lives.

McMahon and Patton have collaborated with Watson, a colleague from South Africa, in the development of the qualitative reflection activity, the My System of Career Influences (McMahon, Patton & Watson, 2004, 2005a,b; McMahon, Watson & Patton, 2013a,b), a qualitative assessment process that can guide individuals in reflecting on the influences in their career development and how these change over time. Using the subsystems of the STF as the core structure, the original trial version of the MSCI was developed and tested based on suggestions provided for the development of qualitative career assessment processes (McMahon, Patton, & Watson, 2003) and through processes as described by the authors (McMahon, Watson & Patton, 2005). Initially an adolescent version of the MSCI (McMahon, Patton, & Watson, 2005a,b) was published. Following requests from practitioners for an adult version, McMahon, Watson, and Patton (2013a, b) subsequently trialled in three countries and published an adult version. A recent review by Henfield (2013) commented on the relevance of the MSCI to diverse populations. Reflective of Henfield's comment, the MSCI has been translated into a number of languages and used with disadvantaged groups (e.g., McMahon, Watson, Foxcroft, & Dullabh, 2008).

The STF has also been applied to career counselling diagrammatically through its representation as a therapeutic system (McMahon & Hyndman, 1997; Patton & McMahon, 1999, 2014) and through the narrative story telling approach which is based on the STF core constructs of connectedness, meaning making, agency, learning and reflection (McMahon, 2005; McMahon & Patton, 2006; McMahon & Watson, 2012a,b, 2013; McMahon, Watson, Chetty, & Hoelson, 2012a, b; Patton & McMahon, 2006b). In relation to multicultural career counselling, Arthur and McMahon (2005) emphasised the STF's capacity to identify different levels of intervention and potential roles for career practitioners. The potential for the STF to contribute to career counsellor training has also been recognised (ACES/NCDA, 2000). Its application to career education (Patton, 2005b, Watson & McMahon, 2006) has also been described and illustrated through an STF diagram of the school system (McMahon, 1997; Patton & McMahon, 1999, 2014). In addition, its application across countries has been affirmed (McMahon, Watson & Patton, 2014; Patton, McMahon, & Watson, 2005; United Nations Educational, Scientific and Cultural Organisation, 2002) as evidenced by the international application of the MSCI.

In documenting its application to research, McMahon and Watson (2006, 2007) highlighted research undertaken with the STF and suggested specific areas for future research activity. Byrne (2007) assessed the influences of the STF to assist in explaining career decision-making influences in the decision to study speech pathology; and Bridgstock (2007) developed a quantitative measure of career development influences using the scaffold of the STF to investigate the career decision-making of arts students and arts professionals.

Concluding comments

It is an honour to provide this contribution to the special edition of the *Australian Journal of Career Development* to mark the 20th anniversary of the first publication of the Systems

Theory Framework. In reflecting on its history and development, we recall comments of reviewers of the first edition of the theoretical text, 'Career development and Systems theory' (Patton & McMahon, 1999) – Puryear commented that "Systems theory in career counseling is an idea whose time has come" and Blisard commented that the book "is sure to be a landmark work... and is sure to inspire further research". We are privileged to have been part of that further development, and to have guided/inspired others to work with the STF. We are confident that it has a strong established place in the theory and practice literature, and that it has contributed to both theory convergence and theory-practice connection.

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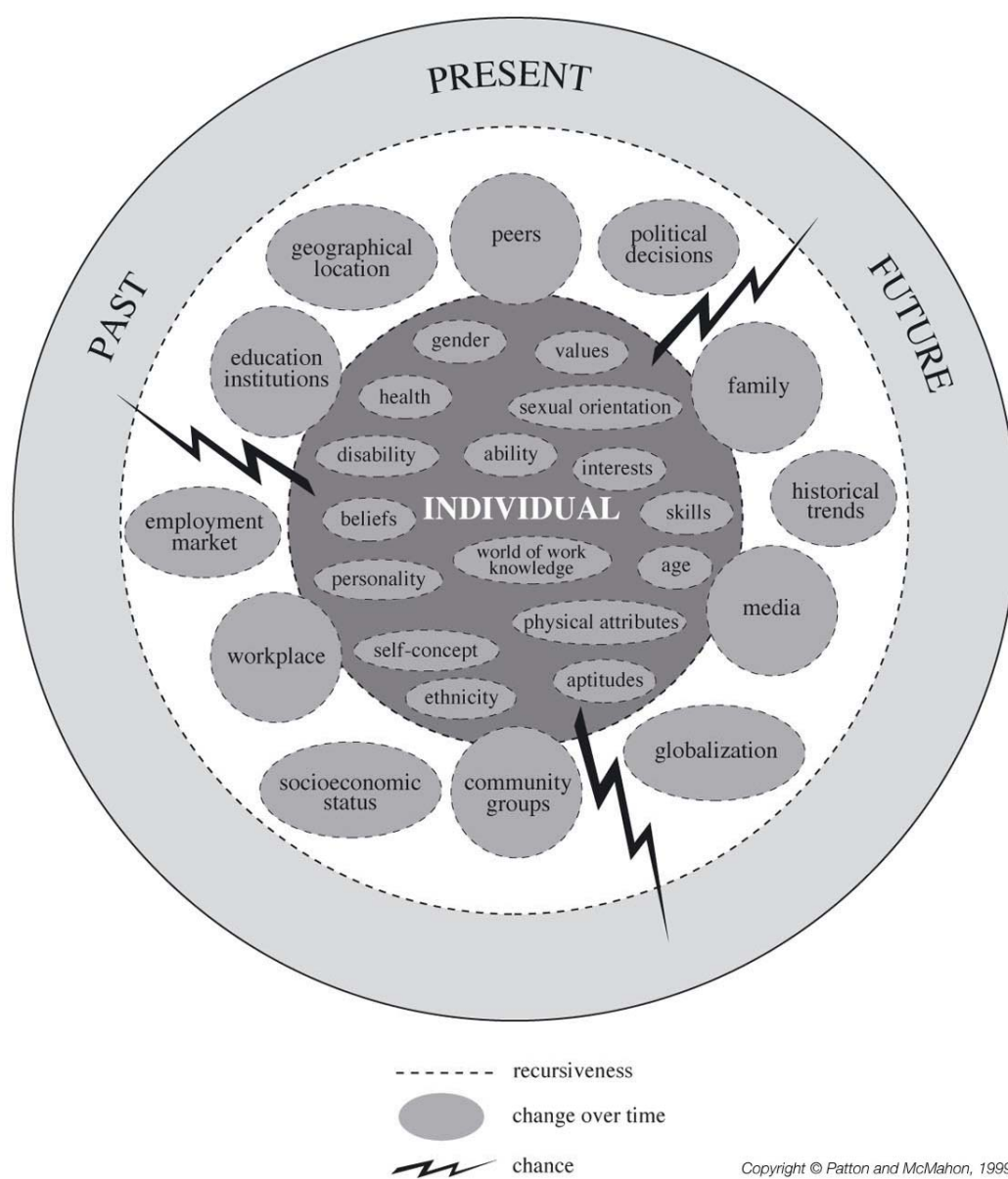


Figure 1 The Systems Theory Framework